Behavioral Disorders in Children:

Attention Deficit/Hyperactivity Disorder, Oppositional Defiant Disorder, Conduct Disorder

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Objectives

- To define the DSM IV diagnostic criteria for ADHD, ODD and CD
- To discuss various treatment options for ADHD

History of Behavior Disorders

- History is marred with stories of treatment of “bad” children
- First defined in 1902 by George Frederic Still, children who lacked “inhibitory volition”, biologically inherited
- 1930-40’s “Brain -injured child”- first use of stimulants for control of behavior
- 1950-60 “Minimal Brain Dysfunction”
- Stella Chess in 1960 “Hyperactive child syndrome” rooted in biology

ADHD since 1994 -DSM IV

Four types

- predominantly inattentive
- predominantly hyperactive/impulsive
- combined
- not otherwise specified

1. Behavior must be inconsistent with developmental level and intellectual ability
2. Behavior must be present for 6 months
3. Some symptoms before age 7.
4. Behavior must be demonstrated in two different settings.
5. Must have at least 6 of the behavioral characteristics

ADHD-Inattentive Type

Attention

- Fails to give close attention to details
- Difficulty sustaining attention
- Does not appear to listen
- Has difficulty following instructions
- Difficulty with organization
- Avoids tasks requiring sustained attention
- Often loses things
- Easily distracted
- Forgetful in daily activities

ADHD - Hyperactive/Impulsive

Hyperactivity

- Fidgets or squirms
- Difficulty staying seated
- Runs or climbs inappropriately
- Difficulty engaging in activities quietly
- Always “on the go”, “driven by a motor”
- Talks excessively

Impulsivity

- Blurts out answers
- Difficulty in waiting their turn
- Interrupts or intrudes upon others

Epidemiology

- 3-5% school aged children with out co-morbidity
- 5-10% school aged children have elements of ADHD along with depression/anxiety
- Boys > Girls 4 - 1 for hyperactivity
- Boys > Girls 2-1 for inattention
- Up to 80% have features into adolescence
- Up to 65% have features into adulthood

Comorbidity

- Present in up to two thirds of *referred* children
- Psychiatric diagnoses include ODD (35%) and conduct disorder (25%), plus depression and anxiety.
- Sleep disorders more common in ADHD
- Learning disabilities occur in about 25% of ADHD children especially receptive language problems (spoken instructions) and expressive language (written output)

Causes - Unknown

- Research has failed to isolate any toxins, developmental impairments, diet, injury, ineffective parenting or distinct genetic disposition but there is a familial disposition
- Siblings have 2-3 times the risk of normals
- MRI studies have shown a 10% decrease in size of right frontal lobe and basal ganglia
- PET studies have shown decreased dopamine pathways between these areas and decreased communication across the corpus callosum

Differential Diagnosis

- Physical causes such as hearing and vision problems, head trauma, chronic illnesses, poor nutrition, insufficient sleep
- Tourette's syndrome
- Drugs - Phenobarbital, benzodiazapines, EtOH and illicit drugs
- Mania, Bipolar disease
- Mental retardation, learning disabilities
- In adolescent onset consider substance abuse.

Assessment

- Parental interview
- Behavioral Checklists
- Observation
- Medical evaluation
- Speech and language evaluations
- Neuropsychological testing*

Behavioral Checklists

Academic Performance Rating Scale
ADD-H Comprehensive Teacher's Rating Scale
Attention Deficit Disorder Scale for Teachers/Parents
Child Attention Problems Checklist
Revised Child Behavior Profile, Teacher/Parent Forms
Conners' Teacher and Parent Rating Scales
Levine Selected Attention Scale
Teacher Observation Checklist
Yale Children's Inventory
Child and Adolescent Symptom Inventories

Treatment

- Health care professionals, educators and parents
- Multi-modal treatment
  - parental training
  - appropriate educational program
  - individual and family counseling
  - medications when required

Treatment Plans (That Work)

- Family understanding of ADHD
- Behavioral Therapy
  - Brevity
  - Variety
  - Structure
- Developing a sense of self esteem
- Educational interventions
- Counseling therapy
- Medications intervention

Treatments That Don't Work

- Dietary Intervention-no conclusive evidence
- Mega-vitamins and Mineral Supplements
- Anti-motion Sickness Medication
- Chronic Yeast InfectionTreatments
- EEG Biofeedback
- Applied Kinesiology
- Optometric Vision Training

Controversial Treatments for Children with ADHD,

Family Understanding - Coping

- Learn difference between inability and non-compliance
- Provide routine with variety and brevity
- List making skills
- Prepare for changes in routine
- Redirection and ignoring
- Rewarding good behaviors and accomplishments
- Become an informed advocate for your child
- www.CHADD.org

Legal Rights and Services

- Public Law 94-142, Part B of IDEA and Section 504 of the Rehabilitation Act of 1973 requires school systems to provide free and appropriate public education.

- 1991 US Dept of Education clarified that children with ADD are eligible for special education and related services

- ADA prohibits all educational institutions from denying services to ADD students

Educational Interventions

- Short, brief assignments with time for feedback
- Preferential seating
- Reduction of written tasks
- Support in organization and study skills
- Un-timed written tests and assignments
- Colored cued materials and techniques

Medications

Psychostimulants-most widely used class

- **70-95% response rate**
- **decrease impulsivity and hyperactivity, increase attention, decrease aggression**
- **methylphenidate (Ritalin,Focalin, Concerta), dextroamphetamine (Dexedrine), amphetamine salts (Adderall)**
- **most common side effects are decreased appetite, insomnia, stomach aches, headaches, personality changes, rebound phenomenon**

Medications (continued)

- No evidence that Psychostimulants lead to growth retardation
- Drug holidays based on unproven hypothesis that sensitivity to drugs is heightened if given intermittently
- Effects are seen immediately but full effect may take several weeks
- Little chance of “addiction”

Myths about Stimulants

- Meds should be stopped at adolescence
- Children build up a tolerance
- Medication leads to drug addiction
- Positive response is diagnostic for ADD
- Medication stunts growth
- Children attribute their success to medication only

Other Medications

- Tricyclic antidepressants
  - imipramine
  - desipramine
  - nortriptyline
- Best used with comorbidity of depression
- Beware of anticholenergic side effects
- Beware of overdose potential
- No need for routine EKG monitoring

Other Medications

Clonidine

- Found to be very effective against hyperactivity component
- Helpful in children with conduct disorders
- Can be used in combination with stimulants (especially with insomnia)*
- Major side effects are sleepiness and dry mouth

Strattera

- For adults and children over age 6
- Highly-selective catecholamine reuptake inhibitor, atomoxetine
- Not a controlled substance
- Dosing by weight 0.5 mg /kg/day initially, titrate to affect but no more than 1.4 mg /kg/day or 100 mg total
- Side-effects similar to SSRI's

Other Medications

- SSRI's
  - preferred agents in adolescents with depression
  - minimal effects on attention, but improve mood
- Bupropion (Wellbutrin)
  - no better than placebo
  - potential to lower seizure threshold

Oppositional Defiant Disorder

- A pattern of negativistic, hostile and defiant behaviors lasting 6 months and with four of the following:
  1. Often loses temper
  2. Often argues with adults
  3. Often actively defies rules and requests
  4. Often deliberately annoys others
  5. Blames others for their behavior
  6. Touchy, often annoyed by others
  7. Often angry or resentful
  8. Often spiteful and vindictive

ODD

- The disturbance causes clinically significant impairment of function
- The behaviors do not occur during mood or psychotic disorders
- Do not meet criteria for Conduct Disorder or, if > 18 yo, Antisocial Personality Disorder

Conduct Disorder

- See DSM IV criteria in handout
- A repetitive and persistent pattern of behavior in which the basic rights of others and major-age appropriate societal norms are violated
- Behavior characterized by aggression toward people and animals, destruction of property, deceitfulness or theft and serious violation of the rules.
- High proportion (30-50%) also have ADHD
- Age of onset is prognostically important

Conclusions

- ADHD, ODD and CD are common and can be a lifelong struggle
- Family physicians are in the perfect position to diagnose and manage the majority of these patients
- Treatment is multimodal, not just medications
- Success is possible and very rewarding